Literature Review on Questionnaires (i.e., Validation, etc.)						
Publication Title	Author	Journal Citation	Population	Duration of Study	Study Objectives	Definitions
Validity of the Fagerstrom Test for Nicotine Dependence and of the Heaviness of Smoking Index among Relatively Light Smokers	Etter, J., Duc, T.V., and Perneger, T.V.	Addiction (1999, volume 94, issue 2, p. 269-281)	643 students, academic, and administrative staff suppliers at baseline and 482 at follow-up	Two sessions, 7 months apart	To assess the validity of the Fagerstrom test for nicotine independence (FTND) and of short-form of this questionnaire, the Heaviness of Smoking Index (HIS) in a population of relatively light smokers	* FTND - a six-item shortened version of the FTQ, excluding items on nicotine yield of cigarettes and inhalation (responses are added to compute a score ranging from 0 to 10 with 010 being the most dependent smokers) * HIS - shorter, two-item version of the same test (scored from 0-6) * Content validity the capacity of a test to represent adequately the concept under investigation; each aspect of addiction to cigarettes should be covered * Score distributions - good scales and items should produce variability, minimal floor and ceiling effects, and small proportions of missing answers * Pros of smoking scale - consists of items that measure withdrawal symptoms, relief of withdrawal symptoms, and self-perceived dependence
A Self-Administered Questionnaire to Measure Dependence on Cigarettes: The Cigarette Dependence Scale	Etter, J., Le Houezec, J., and Perneger, T.V.	Neuropsychoph armacology (2003, volume 28, p. 359-370)	3009 smokers with 578 retesting after 18 days, 990 providing follow-up data after 45 days, and 105 providing saliva cotinine	Questionnaire development over several years through a 6 stage process	To develop a new, self-administered measure of cigarette dependence, and to assess its validity	* Other indicators of dependence - cigarettes per day, minutes to first cigarette of the day, 0-100 scale of self-perceived dependence, occasional versus daily smoking, self-perceived difficulty to quit, and the strength of the urge to smoke during the last quit attempt

Publication Title	Psychometric and Statistical Analysis	Results and Conclusions
Validity of the Fagerstrom Test for Nicotine Dependence and of the Heaviness of Smoking Index among Relatively Light Smokers	Content validity, score distributions, validity of internal structure of the instrument using the Velicer's Minimum Average Partial MAP test and Horn's parallel analysis, internal consistency of alpha > 0.7, test-retest reliability, predictive validity, correlation with saliva cotinine, correlation with quitting self-efficacy, correlation with quit attempts in the past year, correlation with withdrawal symptom questions and with self-perceived dependence; Univariate logistic regression models, univariate linear regression model, odds ratios, regression coefficients, likelihood ratio chi square tests, and adjusted R-squared statistics used	* Both composite scales fail to assess several recognized aspects of tobacco dependence * Both tests had important floor effect with, respectively, 55% and 63% of participants with scores equal to 0 or 1 on these scales * Two of the FTND items (Difficult-to-refrain and Hate-most-to-give-up) had poor psychometric properties * Even though FTND and HSI correlated about as expected with criterion variables, the number of cigarettes smoked per day performed better than either composite scale on most validation criteria
A Self-Administered Questionnaire to Measure Dependence on Cigarettes: The Cigarette Dependence Scale	Several tests given and systematically reduced with elimination of floor effect and ceiling effects, items with high proportions of missing or "Don't know" answers, and those with weak associations with other indicators of dependence; retests given to assess reliability, correlation coefficients determined; assessment of whether intended measure of dependence predicted smoking cessation evaluated through follow-up; correlation of test items with cotinine content; factor analysis used to assess the factorial structure of the data (Velicer's MAP test, Horn's parallel analysis); tests compared to the categories in qualitative data and to DSM-IV and ICD-10 definitions of dependence to assess content validity; relationships evaluated for construct validity, differences between baseline and retest scores among different groups of smokers compared to evaluate sensitivity to change; univariate linear regression models and t-tests used, as well as ANOVA models and Fischer's z transformations	* Performance on an 114-item test resulted in a 12-item scale labeled the Cigarette Dependence Scale (CDS-12) and in a 5-item version of this scale (CDS-5) * Except for tolerance, CDS-12 covers the main components of DSM-IV and ICD-10 definitions of dependence: compulsion, withdrawal symptoms, loss of control, time allocation, neglect of other activities, and persistence despite harm * CDS-5 has similar measurement properties but less comprehensive content * Both scales had a high test-retest reliability and a high internal consistency * CDS-12 scores were higher in daily smokers than in occasional smoker, and were associated with the strength of the urge to smoke during the last quit attempt and with saliva cotinine * CDS-12 and CDS-5 scores decreased in daily smokers who switched to occasional smoking at 18-day retest * Dependence scores did not predict smoking abstinence at follow-up * CDS-12 and CDS-5 are reliable measure of cigarette dependence which fulfill several criteria of content validity and construct validity and are sensitive to change over time * Strength of most associations better for adults than for teens

The Aggression Questionnaire: A Validation Study in Student Samples	Garcia-Leon, A., et al.	The Spanish Journal of Psychology (2002, volume 5, number 1, p. 45-53)	Study 1: 384 university students initially (90 males and 294 females, mean age of 21.6) and 154 in follow-up (34 males and 120 females, mean age of 18.7 years); Study 2: 57 male prison inmate and 93 male university students (mean age of 20.7 and 19.5 years, respectively)	45 minute test session for each giving of a questionnaire	To examine the psychometric properties of the Aggression Questionnaire (AQ) in Spain	* AQ - 29-item instrument with 4 subscales to assess anger, hostility, verbal aggression, and physical aggression * Basic dimensions of anger: affective (made up of emotions such as anger or loathing), cognitive (consisting mainly of negative thoughts about human nature, resentment, and cynical distrust), and behavioral (Defined by various forms of aggression, such as physical or verbal) * Cook-Medley Hostility Scale (Ho) - 50 true-or-false items taken from the original MMI and is usually used as a measurement of general hostility *Boss-Durkee Hostility Inventory (BDHI) - 75 true-or-false items, with eight subscales (assault, indirect hostility, irritability, negativism, resentment, suspicion, verbal hostility, and guilt) * Jenkins Activity Scale Form H (JASE-H) - 32 items to evaluate the Type A pattern, with four subscales of Hard Driving, Job Involvement, Impatience, and Hostility * The State-Trait Anger Expression Inventory (STAXI) - 47 items assessing two dimensions of anger: anger-state and anger-trait
The Fagerstrom Test for Nicotine Dependence: A Revision of the Fagerstrom Tolerance Questionnaire	Heatherton, T.G., Kozlowski, L.T., Frecker, R.C., and Fagerstrom, K.	British Journal of Addiction (1991, volume 86, p. 1119-1127)	254 smokers (average of 33.5, 111 male and 143 female)	One time	To examine and refine the FQR by looking at the relation between each FTQ item and biochemical measures of heaviness of smoking	

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The Aggression Questionnaire: A Validation Study In Student Samples	* In Study 1, reliability, construct validity, test-retest and convergent validity were evaluated * In Study 2, ability of the AQ to discriminate between criminal offenders and university students was evaluated using one-way ANOVAs	* Factor analysis shows four relevant factors: Verbal Aggression, Anger with Resentment, Physical Aggression, and Suspicion * subscales of the AQ showed internal consistency and stability over time * In comparison with the scales and subscales of the STAXI, the Ho, the BDHI, and the JASE-H, the AQ was shown to evaluate some aspects of anger, such as Anger-Trait and Anger-Out, but not others, such as Anger-In or Anger-State * The AQ was able to discriminate between common offenders and university students * The subscales of Verbal and Physical Aggression were correlated * The subscale of Anger with Resentment correlated with all other subscales * Men had significantly higher scores on Physical Aggression and Verbal Aggression, whereas women had significantly higher scores on Anger with Resentment * The Ho showed the highest correlations with the total AQ score and with the subscales of Anger with Resentment and Suspicion * Both the total AQ score and all its subscales correlated strongly with the BDHI * Inmates scored significantly higher than did students in Physical Aggression
The Fagerstrom Test for Nicotine Dependence: A Revision of the Fagerstrom Tolerance Questionnaire	Relationship between biochemical measures and each question of FTQ, FTQ versus the HIS, internal consistency, and factor structure (using the measure of sampling adequacy) were examined	* The nicotine rating item and the inhalation item were unrelated to any of the biochemical measures and these two items were primary contributors to psychometric deficiencies in the FTQ * The revised scoring of time to the first cigarette of the day and number of cigarettes smoked per day improved the scale

| Reliability of Selected Measures of Nicotine Dependence among Adolescents | O'Loughlin, J., Tarasuk, J., Difranza, J., and Paradis, G. | Annual Epidemiology (2002, volume 12, p. 353-362) | 238 high school students | Two 45 sessions a few weeks apart | To examine the test retest reliability, internal consistency, and convergent construct validity of selected measures of nicotine dependence among adolescents | * Fagerstrom Tolerance Questionnaire (FTQ) assesses the compulsion to use cigarettes to achieve pleasurable effects and to avoid withdrawal * Stanford Dependence Index (SDI) - adaptation of FTQ for youth * 45 new items - test items that emerged from telephone consultation with experts on youth smoking, and focus group interview with teenage smokers; categorized into five groupings of items: indicators of affect smoking, situational smoking, physical/psychosocial dependence, control over smoking, and "other" * Hooked on Nicotine Checklist (HONC) - 10 items of Yes/No response, based on the theory that nicotine dependence in youth is associated with a loss of autonomy over their use of nicotine * Self-Medication Theory - dependence results from the use of drugs to self-medicate unpleasant affective states * Negative Reinforcement Theory - addictive behavior is motivated by the desire to avoid withdrawal symptoms * Incentive-Sensitization Theory - repeated administration of nicotine renders the wanting pathway in the brain permanently hypersensitive |

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Reliability of Selected Measures of Nicotine Dependence among Adolescents

* Test-retest reliability was examined among past 3-month smokers   * Reliability of items with dichotomous response choices was computed with the Kappa statistic, which is a measure of agreement corrected for chance   * For items with continuous or multi-level categorical response choices, intraclass correlation coefficients were used (ration of subject variance to total variance including both subject and random error variance)   * The internal consistency of the HONC and SDI was measured using Cronbach's alpha, a reliability coefficient that measures a single underlying construct   * Convergent construct validity of measures against indicators of cigarette exposure including past 3-month smoking and number of cigarettes smoked per week was assessed

* Test-retest reliability among past 3-month smokers indicated good to excellent reliability coefficients for HONC items, except one item that tapped feelings of depression on withdrawal   * The HONC and SDI demonstrated good internal consistency   * Convergent construct validity against cigarette exposure was demonstrated for the HONC, SDI, and most of the 45 new items   * The HONC and SDI demonstrated excellent and good psychometric properties, respectively   * Most of the 45 new items hold promise -- 23 of the 45 showed very good or excellent test retest agreement, but there was variability in the ability of individual items to differentiate between lower and higher exposure to smoking

Validation of the Modified Fagerstrom tolerance Questionnaire (FTQ) with Salivary Cotinine among Adolescents	Prokhorov, A.V., et al.	Addictive Behaviors (2000, volume 25, number 3, p. 429-433)	131 adolescent volunteers in a smoking cessation program (49% male, 93% White, mean age of 17.7 years)	One time	To gain evidence of validity for a nicotine dependence measure for adolescent smokers	* Saliva cotinine - a metabolite of nicotine * Modified FTQ - FTQ questionnaire that does not include the question on brand preference, since adolescents are shown to have difficulty reporting brand preference
The Development and Initial Validation of a Questionnaire on Smoking Urges	Tiffany, S.T., and Drobes, D.J.	British Journal of Addiction (1991, volume 86, p. 1467-1476)	230 daily cigarette smokers (141 male and 89 female, average of 21.4 years)	One session		* Factor 1 scale items - reflected primarily intention and desire to smoke, and anticipation of pleasure from smoking * Factor 2 scale items - comprised primarily of anticipation of relief from negative affect and nicotine withdrawal, and urgent and overwhelming desire to smoke

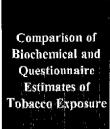| Validation of the Modified Fagerstrom tolerance Questionnaire (FTQ) with Salivary Cotinine among Adolescents	Item characteristics, interitem correlations, internal consistency, and item-to-total score correlations computer; Pearson product-moment correlation coefficients were used to assess the relationships between the fTQ total and component item scores and cotinine levels; boxplots used to graphically depict the associations between cotinine and the FTQ items	* The total Fagerstrom Tolerance Questionnaire score was related to saliva cotinine, as were six of the seven individual FTQ items * The item "Do you inhale?" exhibited either negative or modestly positive associations with other scale items and did not show a consistent relationship to cotinine levels * The Cronbach alpha estimate of internal consistency for the seven items was 0.70; omission of the inhalation item would have increased the alpha minimally to 0.71 * Items that showed the greatest differences of cotinine across response categories were "How many cigarettes a day do you smoke?" and ""How soon after you wake up do you smoke your first cigarette?"
The Development ... ... Smoking Urges	* Data from the questionnaire were analysed with exploratory factor analyses using principle axis extraction for factor determination with squared multiple correlations as communality estimates in an attempt to help identify the basic structure of the verbal report on smoking urges * Assessments of variables that might be related to various components of reported smoking urges (e.g. smoking history, reported reasons for smoking, mood and smoking withdrawal) were included in the study in order to aid in the interpretation of factors that emerged from the analysis; stepwise multiple regression and ANOVAs used	* Factor analyses showed that a two-factor solution best described the item structure for each of the three deprivation levels (0, 1, or 6 hours) and for the entire sample * Factor scales of 15 and 11 items were highly reliable and moderately correlated * Average scores on both scales increased significantly with level of deprivation and the Factor 1 scale was significantly higher than the Factor 2 scale at all levels * The addiction score from the RFS, the Physical Symptoms scale from the WSC, and the Boredom score from the RFS questionnaires were significant predictors of the QSU general scores * Factor 1 scores were associated positively with a stereotyped smoking pattern and a report of being less sleepy on the Stimulation/Sedation scale * Factor 2 scores were associated positively with a self-reported tendency to smoke when experiencing negative affect, greater sleepiness, and a self-reported tendency to feel uncomfortable or experience desires to smoke when cigarettes were unavailable

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| Comparison of Biochemical and Questionnaire Estimates of Tobacco Exposure | Vogt, T.M., Selvin, S., and Hulley, S.B. | Preventive Medicine (1979, volume 8, p. 21-33) | 142 males | One time | To examine the association between seventeen variables from a smoking questionnaire and levels of expired air CO and of serum SCN | * SCN and CO measurement - combined by calculating the first principal component termed the SCN + CO index, subtracting their mean values and dividing by their standard deviations |

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Comparison of Biochemical and Questionnaire Estimates of Tobacco Exposure	Correlation, regression, and analysis of covariance techniques were employed to analyze the relationships among the biochemical measurements and 17 variables abstracted from the subjects' reported smoking history	* Of the seventeen variables on the questionnaire, cigarette smoking frequency was the strongest predictor of the biochemical results; it accounted for 24% of the variance in an index that combined the SCN and CO values * Only two other questionnaire variable contributed additional information in a stepwise multiple regression analysis: the time elapsed since last smoking and the longest period the smoker had been off cigarettes in the past * Conventional questionnaire estimates of dosage such as depth of inhalation, the amount of each cigarette smoked, and the use of filters did not contribute significant information to the multiple regression of SCN and CO